

**YX2765 – 60V<sub>IN</sub>, 65V<sub>OUT</sub>, Synchronous Bidirectional Boost Controller**

**1 Features**

- Synchronous bidirectional boost controller with wide input voltage range of 4V to 60V
- Bi-directional boost operation
- Ultra-wide switching frequency: 50KHz to 3MHz
- Programmable output current limits, with load current sensing at ISMON
- 5V driver voltage for Si FETs or GaN FETs
- Gate driver: 0.6Ω pull-down, 1.2Ω pull-up resistance
- Drive supply rail UVLO protection
- Adjustable dead time control
- External compensation with user programmable soft-start
- Integrated high accuracy ( $\pm 1\%$ ) 1.8V VREF
- Power good functional safety reporting
- 32-Lead QFN Package (5mmx5mm)
- 32-Lead QFN Package (4mmx4mm)

**2 Applications**

- Bidirectional Buck-Boost DC-DC supplies
- USB Type-C Power Delivery
- Power Interrupt Protection System
- Industrial and Automotive power supply

**3 Description**

The YX2765 is a synchronous bidirectional boost controller suited for driving silicon (Si) MOSFET or Gallium Nitride (GaN) power transistors in highly efficient DC-DC power converters. It supports a wide input ranges up to 65V with maximum 98% power efficiency. It operate as a boost controller but can change the power path to reverse direction by controlling the DIR pin from high to low. It provides programmable input current limit and output current limit functions with output instant current monitoring through ISMON. The YX2765 integrates both high side and low side gate drivers with UVLO protections. It also supports adjustable dead time control for optimal turn on/off of power switches to reduce switching loss for high efficiency. The YX2765 supports ultra-wide switching frequency range from 50KHz up to 3MHz with frequency set pin (RT). It also features external compensation, programmable soft-start to reduce the inrush current at startup. The YX2765 is available in 5mmx5mm or 4mmx4mm 32-lead QFN package.

[Ordering Information](#) appears at page2 of datasheet.

**4 Device Information**

PART NUMBER	PACKAGE	BODY SIZE (NOM)
YX2765CAJBE	32L QFN	5mm × 5mm
YX2765CAHBE	32L QFN	4mm × 4mm

**5 Typical Application for Boost Converter & Power Efficiency**

